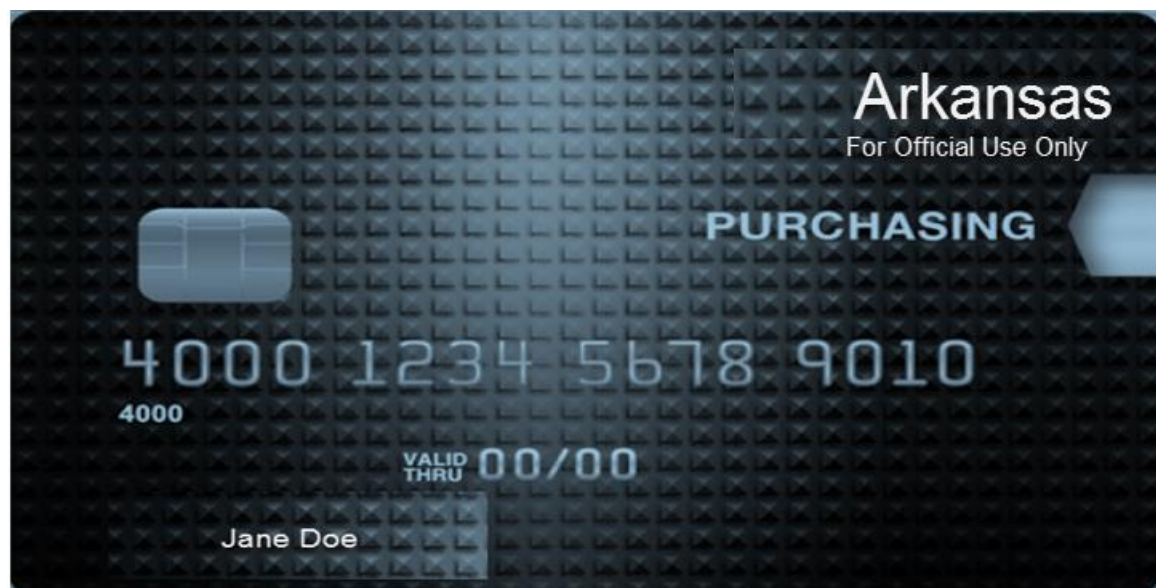


Introducing US Bank's Bold New Security Look

EMV Chips Cards 101



- What EMV is and how chip cards work
- Why and when chip cards are coming to the U.S.
- How chip cards will affect your organization and cardholders
- What you can do to ensure a smooth migration

What is EMV?

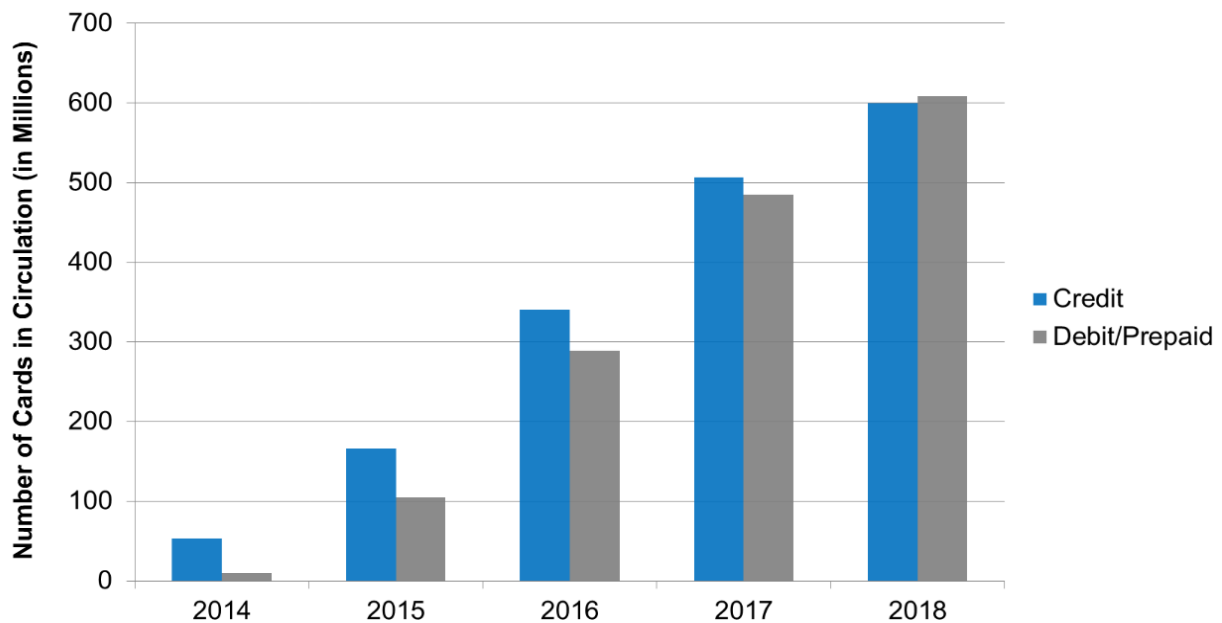
EMV: Named after its original developers (Europay, MasterCard® and Visa®), EMV is a global standard for chip cards featuring embedded microprocessor chips that store and protect cardholder data.



When is EMV Coming to the U.S.?



Forecast Total U.S. EMV Cards



Source: Javelin Strategy & Research, "EMV in U.S.A.: Assessment of Merchant and Card Issuer Readiness," April 2014

Why Chip and Why Now?

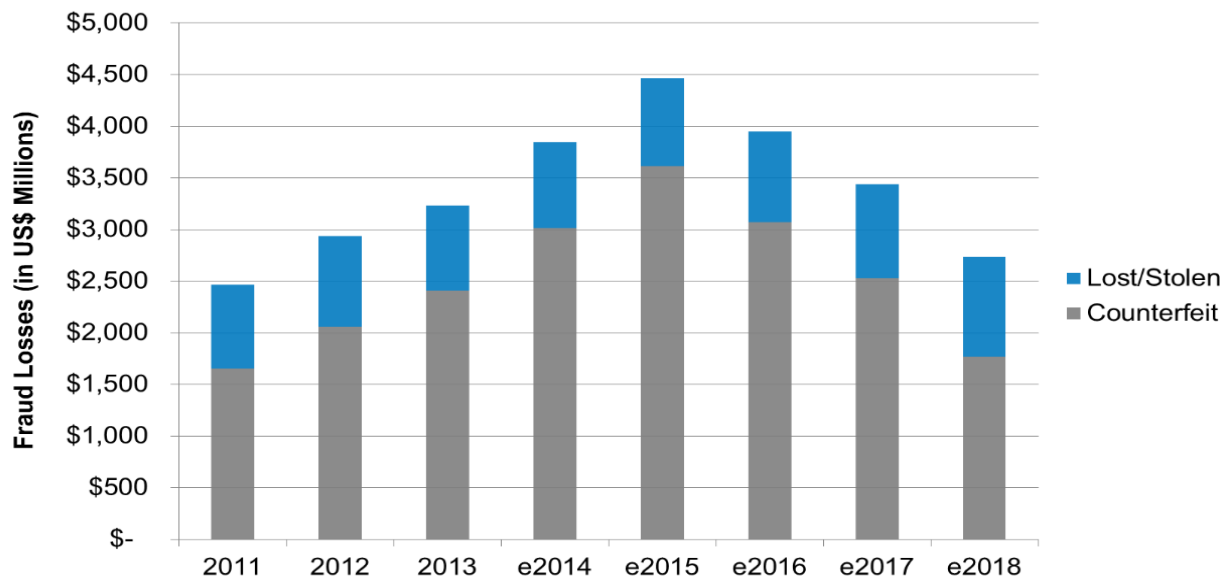


Security
and Fraud



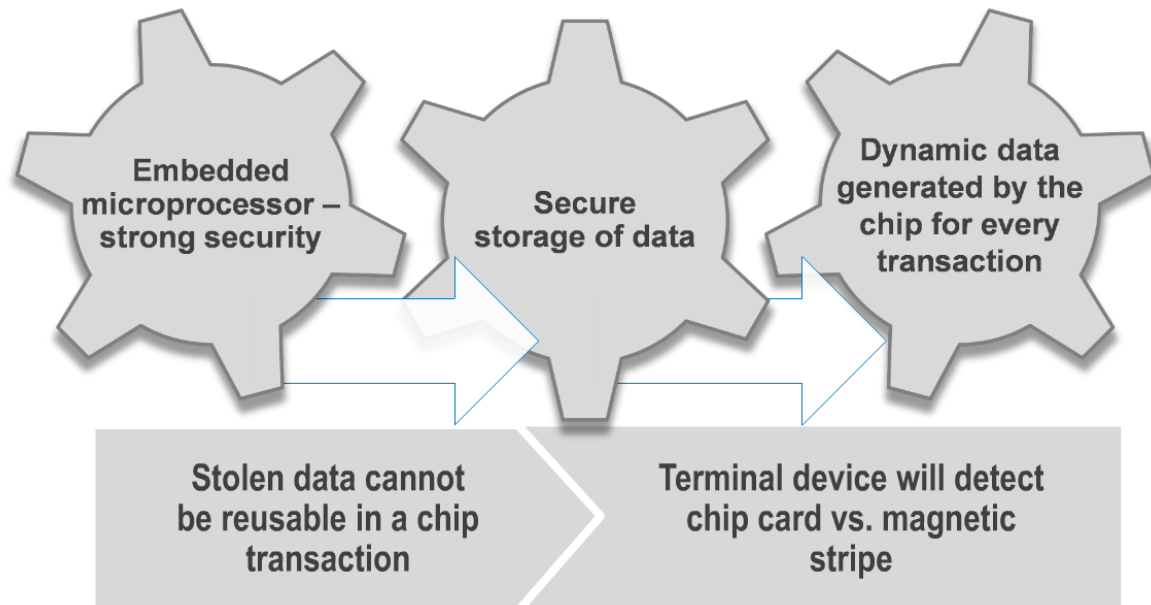
Global
Interoperability

U.S. Card Present Fraud Losses



Source: Aite Research, "EMV: Lessons Learned and the U.S. Outlook," June 2014

How Does Chip Technology Increase Security?



Magnetic Stripe Data

BHEREISYOURCARDNUMBER^HEREIS/YOURNAME^EXPIREDATESERVICECODECVV
BHEREISYOURCARDNUMBER^HEREIS/YOURNAME^EXPIREDATESERVICECODECVV
BHEREISYOURCARDNUMBER^HEREIS/YOURNAME^EXPIREDATESERVICECODECVV
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BHEREISYOURCARDNUMBER^HEREIS/YOURNAME^EXPIREDATESERVICECODECVV

Easy to read.
Easy to replicate.

Chip Data

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1C 03 04 26 7D 00 5A 1C 03 04 26 61 04 5A 1C 03 84 26 68 04 5A 1C 03 84 26 6F 00 5A 1C 03 84 26 84 04 5A 1C
5A 02 02 00 00 00 00 69 00 00 00 69 00 03 00 69 00 06 00 69 00 09 00 69 00 0C 00 69 00 0F 00 69 00 12 00 69
00 1E 00 69 00 21 00 69 00 24 00 69 00 27 00 69 00 2A 00 69 00 2D 00 69 00 30 00 69 00 33 00 69 00 36 00 69
00 45 00 69 00 48 00 69 00 4B 00 69 00 4E 00 69 00 51 00 69 00 54 00 69 00 57 00 69 00 5A 00 69 00 5D 00 6B
00 09 00 6B 00 0C 00 6B 00 0F 00 6A 00 00 00 6A 00 03 00 6A 00 06 00 6A 00 09 00 6A 00 0C 00 6A 00 0F 00 6A
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
FE D5 FD DC AB 70 D5 92 91 46 49 98 43 10 25 7F 25 7F 51 5D AB B5 86 C7 92 F4 3B 97 A8 19 F2 0B 04 16 7F 94
00 00 00 00 00 5A 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
FF 08 03 03 00 00 00 00 00 03 00 00 1E 00 29 00 FB 00 DF 01 E4 01 09 00 C6 00 00 00 00 00 00 00 00 00 04 25 01
00 82 02 7D 00 82 02 20 00 82 02 00 80 82 02 10 00 82 02 58 00 02 23 1D 1F 5A 00 0A 94 08 08 01 01 00 10 01
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 9F 10 07 06 01 0A 03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0C 5A 5A 0E 9D FA EB 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
73 83 A1 76 F3 9E E4 85 25 2C D2 00 00 00 00 AA 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 9F 13 02 00 00 9F 17 01 03 9F 27 01 00 9F 36 02 00 00 9F 4F 15 9F 02 06 5F 2A 02 9A
27 01 9F 51 02 08 40 9F 52 04 00 00 00 00 9F 53 01 00 9F 54 06 00 00 00 00 00 00 00 9F 55 01 C0 9F 56 01 00 9F
9F 5C 06 00 00 00 00 00 00 9F 5D 06 00 00 00 00 00 00 9F 5E 01 00 9F 67 01 9E 9F 68 04 80 00 00 00 9F 6B 06
6D 06 00 00 00 00 09 00 9F 6E 04 00 00 00 00 9F 72 01 00 9F 73 04 00 00 00 00 9F 75 06 00 00 00 00 00 00 9F
73 75 76 77 78 79 7C 03 85 00 05 55 55 03 8A 00 04 55 55 03 92 00 05 55 55 03 97 00 18 55 00 03 AF 00 05 55
00 03 BF 00 09 00 00 03 C8 00 04 00 00 03 CC 00 04 A5 55 03 D0 00 05 55 55 03 D5 00 04 00 00 03 D9 00 04 00
55 03 EF 00 04 00 00 03 F3 00 04 AA 00 03 F7 00 07 A5 55 03 FE 00 09 00 00 04 0C 00 09 00 00 04 15 00 07 00
00 04 27 00 09 00 00 04 30 00 05 00 00 04 35 00 09 00 00 04 3E 00 09 00 00 04 47 00 09 00 00 04 50 80 23 00
08 3A 08 35 08 40 08 37 01 01 02 01 02 08 4C 00 34 00 00 08 80 00 52 00 00 08 D2 00 40 00 00 70 32 57 13 43
00 00 00 17 10 1F 5F 20 1A 43 41 52 44 54 57 4F 2F 54 45 53 54 20 20 20 20 20 20 20 20 20 20 20 20 20 20 70
34 01 00 8E 12 00 00 00 00 00 00 00 00 02 01 02 05 42 04 5E 00 1F 00 9F 0D 05 FC 50 AC 88 00 9F 0E 05 00 00
24 03 16 08 31 5F 28 02 08 40 9F 07 02 FF 00 5F 25 03 13 11 01 70 3E 8C 15 9F 02 06 9F 03 06 9F 1A 02 95 05
8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 44 01 02 5F 30 02 02 01 9F 08 02 00
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02 65 6E 00 00 00 00
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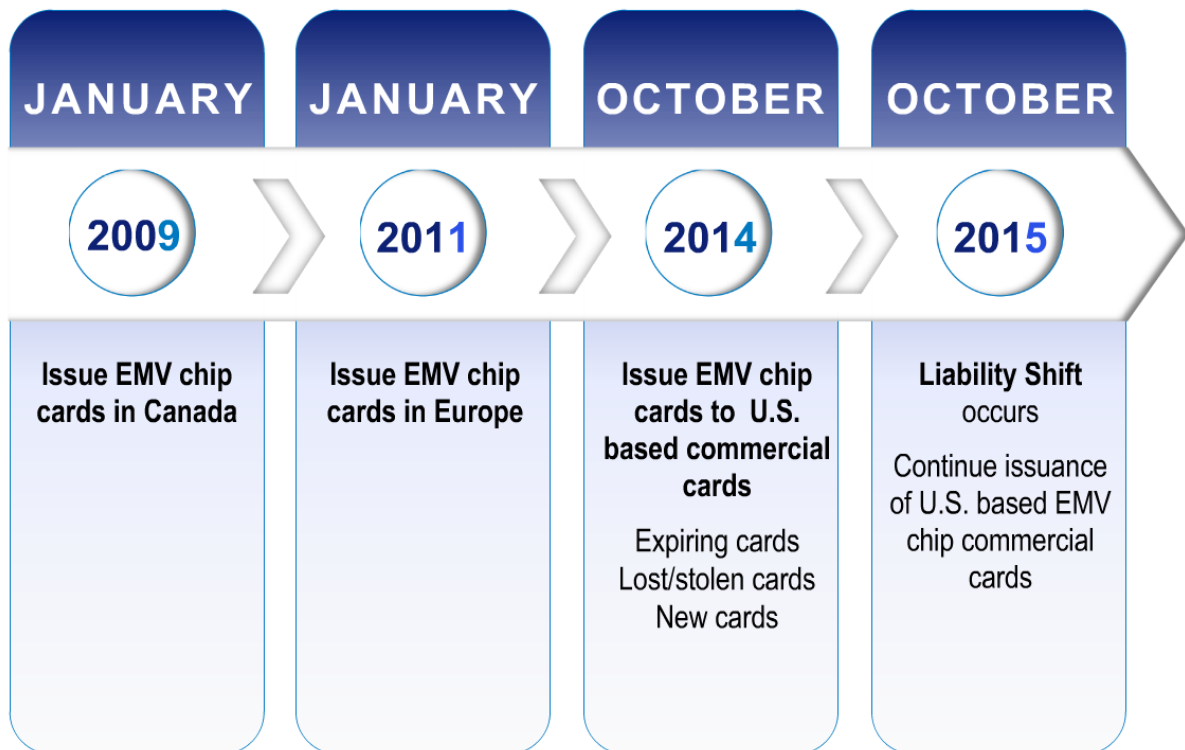
EMV – What it is... and What it isn't

EMV will:	Prevent counterfeit fraud at the point of sale	EMV will not:	Protect against card-not-present fraud
	Protect against counterfeiting cards		Prevent data breaches
	Create a different point-of-sale experience ("dip" vs "swipe")		Always require a PIN
	Store cardholder data on a chip		Be vulnerable to wireless interception of data
	Require a new card		Eliminate the need for magnetic stripe
	See growing adoption in the U.S. in the next 12-18 months		Be universally adopted in the U.S. for 3-4 years

History and Dates

CPS EMV Migration

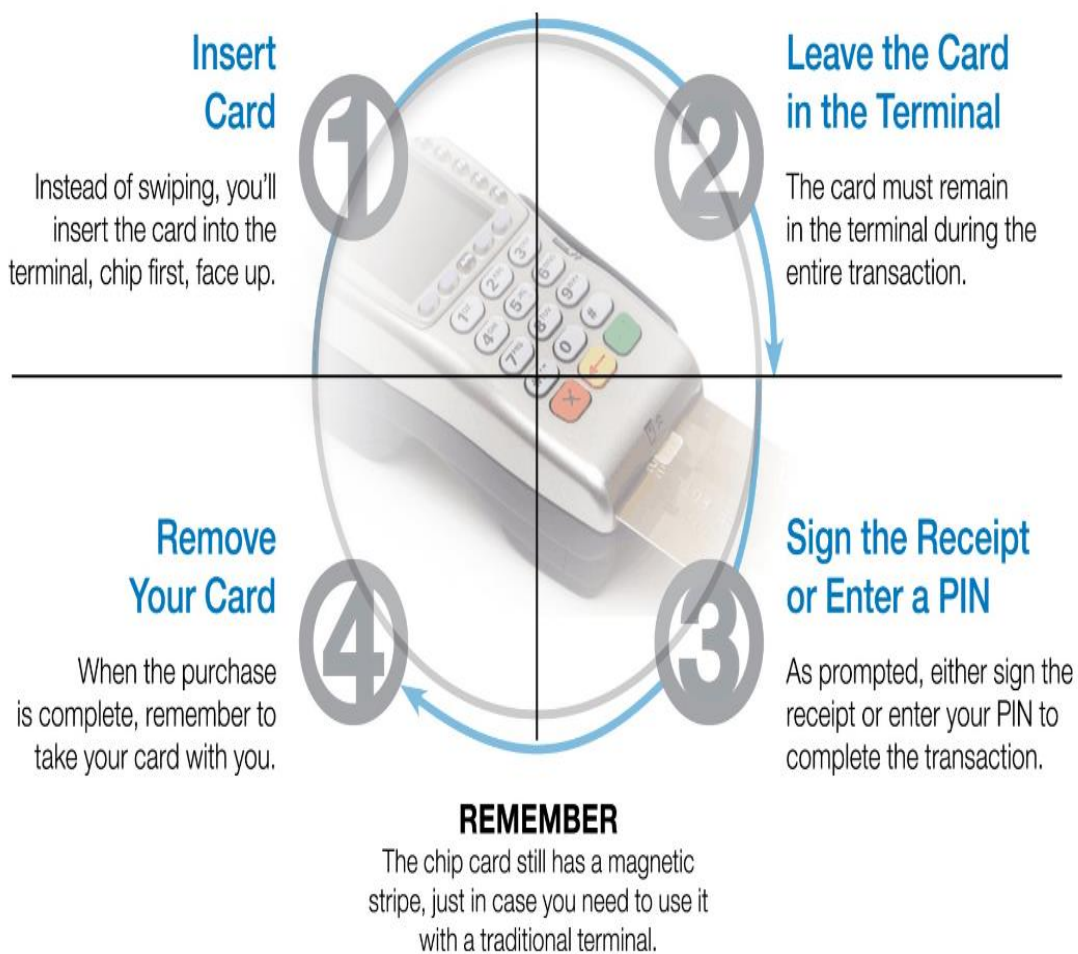
Migration Timeline



What to expect

The cardholder experience

Cardholder Communications



Cardholder Experience



Non EMV Terminal

Cardholder swipes card at the POS terminal

Transaction processing per existing process takes place

Cardholder provides signature verification



EMV Enabled Terminal

Cardholder inserts ("dips") card; OR swipes card, and is then prompted to insert card

Cardholder inserts card in the POS terminal

Cardholder provides signature verification

Transaction complete; cardholder removes card from terminal

Card Stays in the Terminal

Signature or PIN – How and When



Signature Validation

- Used as preferred validation on U.S. Bank commercial cards
- Needed for majority of all purchases



PIN Validation

- If prompted, may be needed for international purchases at unattended terminals

Commonly Asked Questions about Visa Chip & Pin Credit Cards

1. What is a State Issued Visa Chip & Pin Card and what are the benefits?

A Chip & PIN card is a credit card with a microchip embedded in it. The chip is encrypted and provides enhanced security and protection to help safeguard against fraud. When used with chip-enabled terminals, the system validates the chip and the PIN, helping to ensure a more secure transaction. The addition of a PIN provides an extra layer of security above and beyond the chip as only you know your PIN.

2. Why are Chip & PIN cards more secure?

The enhanced security of a Chip & PIN card comes from the chip itself as it is encrypted and employs a range of security features and measures that work in concert with each other to create a multi-layered defense against card fraud. When Chip & PIN cards are used at chip-enabled terminals, the transaction system identifies the cardholder through the Chip and the PIN. The enhanced security features of Chip & PIN cards make them virtually impossible to replicate and therefore less likely to be a target for criminals.

3. Are Visa chip cards safer to use than magnetic stripe cards?

All Visa cards are safe, and offer protection from unauthorized use of your card or account information. Visa chip technology offers another layer of security when used at a chip-reading terminal, because it generates a unique, one-time code that is needed for each transaction to be approved.

4. Will my state issued U.S. Bank Chip & PIN Visa Credit Card still contain a magnetic stripe?

It will take time for all merchants, stores and restaurants to be set up with chip-enabled terminals. To ensure the U.S. Bank Chip & PIN Visa card continues to be accepted everywhere, it will contain a magnetic stripe in addition to the chip. You can therefore expect to experience two types of transactions with your U.S. Bank Chip & PIN Visa card for some time to come.

- **Swipe and Sign** - when you make a transaction at a non-chip enabled terminal with your U.S. Bank Chip & PIN credit card, the magnetic stripe is swiped and an authorized signature will be required on the receipt
- **Chip & PIN** - the credit card is inserted and left in the terminal as you input your PIN for validation and for the duration of the transaction

5. How do U.S. Bank Chip & PIN Visa Credit Cards work for transactions made online or over the telephone?

Transactions made online or over the telephone with your U.S. Bank Chip & PIN Visa Credit Card should be conducted the same way as with your current card. This may include using the three-digit verification code on the back of the card. Never disclose your PIN to anyone, even if it's requested to complete a transaction - whether in person, online (via email or the Internet), or by phone.

6. Will all merchants know how to process a Chip & PIN transaction?

When a merchant terminal is upgraded to accept a Chip & PIN transaction, they will receive training from the terminal provider. Although the transaction process is straightforward when the terminal prompts are followed, it is a change that will take time for everyone to get used to. Many merchants employ a wide variety of full and part-time staff who may receive varying levels of training. At first your transaction may take longer for them to complete, so your patience in these situations is appreciated.